Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

JOURNAL
OF
FARM ECONOMICS

VOL. III. OCTOBER, 1921. NO. 4

CHANGES IN FARM ORGANIZATION AND FARM PRACTICE AS SHOWN BY A STUDY OF THE BUSINESS SIDE OF FARMING IN SEVERAL SECTIONS OF THE COUNTRY.

H. M. DIXON,
FARM MANAGEMENT AND FARM ECONOMICS, WASHINGTON, D. C.

In order to determine to what degree farms vary in efficiency of operation owing to differences in farm organization and farm practice it is necessary to make a study of the business of many farms. Each group under observation should be representative of an important area or of a well-defined type of farming. The data for analyzing the farmer's business are obtained in part through the coöperation of farmers who keep accounts and of others who are in a position to give authentic data regarding the business of the year. Where accounts are kept it is a comparatively easy matter to summarize them at the end of each year. However, it is not possible in most areas to find a sufficient number of farmers who keep accounts to make the results representative of the many conditions that prevail. To aid in this connection the survey method of research was inaugurated for the purpose of securing detailed estimates of the business of each farmer within a given area. Farmers who keep partial or complete records may give these data from their books, while others make their estimates through the aid of check stubs, elevator records, milk checks, etc. Although few farmers keep full accounts, practically all of them can supply the details necessary for an analysis of the business. Those who do not keep books invariably have some method of recording the business transactions for their own guidance from year to year.

Unlike the grocery store or other lines of business where the transactions occur in small amounts and where the turnover of the money invested runs to several times a year, the farmer receives his returns in relatively large amounts, which can easily be kept in mind, and he usually has little difficulty in checking them up for comparative purposes. By obtaining these data from many farms in a given region a more extensive classification can be made than would be possible otherwise, and the value of the information obtained is enhanced accordingly. To start with, the average conditions of the area are made available for a given time. With this information as a basis, the extent to which farms vary from the average in any particular, the effect of this variation upon profits, and the factors of efficiency, can be determined. The average, therefore, serves as the yardstick to measure more intelligently the opportunities or possibilities afforded a given person with a given amount of funds, experience and training. Likewise comparisons may be made of the average with any given group of farms, such as the best organized farms or the poorest organized farms, and the effect of the variation in organization or farm practice upon returns. For instance, there we set out for comparison the inefficient farms, the farms with business of different sizes, with more and better live stock than the average, more and better crops, greater diversity, better utilization of labor, better rotations, and with variations in systems of organization, in education or practical experience, the age of the farmer, etc. Thus far, however, these studies have not been undertaken upon large enough scale or for a long enough term of years to make possible the determination of the effect of many of the factors mentioned above. All of the factors are at work upon each farm, but not with equal weight in each instance.

In order to study many of these problems more intensively, it will be necessary to obtain a large number of records representing the farms of a given area. The analysis of the business of one farm for a single year has a value, but the analyses of ten farms, one hundred farms or five hundred farms has a greater value, especially in respect to bringing to light the relative effect upon good farm organization, of the many interrelated factors. Thus, too, the study of farms for one year is of value, but a repetition of the study in the same area for two, four or six years has a correspondingly greater value. The mistake has sometimes been made of overestimating the uses and values of a given study. The leading difficulty, however, in most studies of the past has been the lack of funds available for these studies, but the undertaking of future studies will doubtless be more with the object of making each investigation comprehensive enough to make possible the interpretation of elements in addition to the principal ones which have received attention thus far.

Furthermore, there are certain problems in farm organization that require a number of years of careful study in the same areas. Prominent among these is the problem of soil fertility maintenance. By carrying the study over a series of years data are made available regarding the effect of crop rotations upon yields, the advantages and disadvantages of live stock versus crop farming, the crop yields returned on owner farms and tenant farms, and various other points in relation to their effect upon success in farming. It is the writer's opinion that the time is not far distant when all research departments dealing with the practical side of farm management investigations will have such studies in operation to furnish the same sort of background to their work as does field work to that of the agronomist or feed-lot experiments to that of the animal husbandry man. The Office of Farm Management and Farm Economics is conducting a few such studies over a period of years, most of them being in coöperation with State agricultural experiment stations or colleges. The departments of farm management in New York, Kansas, Montana, Ohio and Georgia are also conducting such studies.

I shall not attempt here any comprehensive analysis of the data from each area discussed, but shall point out, by a brief reference to each of the various areas, some of the uses to which such data may be applied.

Washington County, Ohio.—In Washington County, Ohio, a study has been made of the business of twenty-five farms for a period of eight years. This work is bringing to light some of the effects upon farm organization of a change from sheep farming to a type involving the keeping of more cattle and more hogs. Valuable comparisons are made possible, such as that of the yields returned by the farms selling crops direct with those feeding crops to live stock and obtaining more manure, that as to following a definite rotation, plowing under green manure crops, etc. Pre-war returns can be compared with farm incomes during the war and after the war. The average labor income for the period before the war was $153 and for the war period $441. The percent return on capital for the first period was 2.8 and for the latter period 6.6.

Clinton County, Indiana.—In Clinton County, Indiana, records from 100 farms have been obtained for eight consecutive years. This study was first made in 1910 and, beginning with 1913, has been repeated for each succeeding year. In addition to showing the effect of production, prices and other factors upon farm income, labor income and return on capital from year to year, the study has provided additional facts concerning many important economic problems in farming. We have yields over the eight-year period on farms operated by owners, share-rent tenants and cash-rent tenants. We have the same information for crop farms and live-stock farms, operated with and without a definite three- or four-year rotation, etc. Throughout this period there has been a noticeable increase in corn acreage and a decrease in small grains and hay. Comparing the first two years of the study, 1910 and 1913, with the last two, the corn area increased 22 per cent, small grains decreased 5 per cent, and hay decreased 15 per cent.

Another important result of the study is in connection with the introduction of tractors and other labor-saving machinery upon these farms. Between 1916 and 1919 ten farmers purchased tractors. Three of these replaced the first tractor after three years' wear with a new one. By having the data regarding the organization and operation of these farms before and after purchasing the tractor the changes and their effects can be determined. In addition, a comparison of costs and returns upon these farms with similar farms not equipped with the tractor may also be made. About 3 per cent of the tenants in this area became owners within the area each year. The eight-year average labor income of owners was $438, owners additional $658, tenants $1,004. The returns to landlords averaged 4.2 per cent.

Frederick County, Virginia.—In Frederick County, Virginia, an area representative of the Shenandoah Valley district, a study of 150 farms has been in progress during the past five years. The farms in this region divide themselves into three more or less distinct types. These are (1) the general crop and live-stock farm as found generally through the eastern districts, (2) the general farm with a small area devoted to fruit, and (3) the orchard farm where practically the entire income is obtained from fruit, principally apples. The orchard farms require by far the greatest amount of capital, and also return the largest profit over the period as a whole, although the income from year to year shows a wide range. There is quite a wide variation in cultural practices and care of these orchards, and this is closely associated with the returns. The orchard enterprise is the one showing the greatest development in this area. Over the five-year period

11 per cent of the general, 17 per cent of the general with fruit, and 32 per cent of the orchard farms have been equipped with tractors. The five-year average labor income of the general farms was $235, of the general with fruit $618, and of the orchard farms $2,358.

Dane County, Wisconsin.—In Dane County, Wisconsin, a study of sixty farms over a five-year period showed an increase in number of cows per farm and in production per cow and a decrease in hogs. In 1913 there was an average of 8.7 cows per man on these farms, and in 1917 there were 9.8 cows per man. There was an average of 44 acres of crops per man in 1913 and 45 in 1917. No milking machines were used in 1913, but in 1917 four farms were equipped with milking machines. Of the four farms purchasing milking machines, one increased the herd from 19 to 20 cows, another from 22 to 26, another from 37 to 40, and the other from 37 to 42 the first year. Twelve farms had silos at the beginning of the study and twelve more put up silos during the period. Nine barns, one house and a number of other smaller buildings were put up new on the sixty farms over the five-year period. A list of the more important items of equipment purchased on these farms for this period follows: 23 wagons, 18 corn binders, 18 2-horse cultivators, 17 grain binders, 17 side delivery rakes, 16 manure spreaders, 16 gas engines, 13 hay loaders, 11 mowers, 10 sulky and gang plows, 12 2-horse sets of harness, 10 corn planters, 8 grain drills, 5 ensilage cutters, 3 corn shredders, 3 tractors, besides buggies, harrows, rollers and other small equipment.

Sumter County, Georgia.—A survey of over 500 farms was made in Sumter County, Georgia, for 1913, and repeated for 1918. Among the more marked changes as shown by a comparison of the data pertaining to these two periods the following may be mentioned: There was a reduction in the cotton acreage approximating one-third and an increase of one-third in the corn acreage, thus making the area devoted to these two crops about equal in 1918. An increase was apparent in the wheat crop, which was grown on only the occasional farm in 1913, but on about two-thirds of the farms in 1918. About one-third of the farms in 1918 produced more of this crop than was required for family use, thus leaving a surplus for sale. The peanut took a place as an important cash crop in the five-year period. The velvet bean was introduced, usually interplanted with corn and utilized largely as a feed crop. A noticeable increase was apparent in the production of feed crops, thus reducing expense for purchased feeds. Live-stock production was increased, particularly hogs. Lighter application of fertilizer was made on cotton as well as other crops.

The acreage of legumes was increased. These changes occurred to the greatest extent on the farms operated by white owners. The colored farmers stuck the closest to cotton. The average cost of producing cotton in 1913 was 11.8 cents per pound of lint and in 1918 23.2 cents per pound.

Palouse Region, Idaho and Washington.—A study of 246 farms in the Palouse region of Idaho and Washington was made for the year 1914 and repeated for the year 1919. At this latter time sufficient additional data were obtained to calculate the cost of growing all the leading crops.

A comparison of the data for the two years shows that 1919 was a much better year for the farmer than 1914. The average farm income for 1919 was twice as large and the average labor income nearly five times as large as for 1914. The changes in farm organization that have occurred in the five-year interval are also striking. For example, comparing the two periods, the enterprise of wheat and peas had been expanded to a much greater extent than those of oats and live stock. The changes are also shown that have taken place in farm practice and their effect on costs and profits, in the relative acreage of winter and spring wheat, and the acreage of peas and beans raised in place of summer fallow. In 1919 the yield of winter wheat after summer fallow was 32 bushels per acre and the cost of production $1.75 a bushel, while the yield after the peas was 36 bushels per acre and the cost of production only $1.18 per bushel.

Changes have occurred in the practice of seeding grain crops and in the use of improved harvesting machinery.

Hillsboro County, Florida.—A farm business analysis study in the trucking area of Hillsboro County, Florida, for the years 1917 to 1920 shows that no definite crop rotations are followed. Poor returns from a truck crop one year results too often in a reduction in the acreage of that crop the following year, and good returns often result in an increased acreage the following year. The most consistent incomes are realized, however, by those who follow a more definite program of crops from year to year. Strawberries have consistently shown the best returns per acre. The acreages in velvet beans, cowpeas and peanuts have been increasing. The piney-woods hogs and range cattle are rapidly being replaced by better grades of stock and this is resulting in a more satisfactory return from these sources.

Polk County, Florida.—In the citrus fruit area of Polk County, Florida, the grapefruit plantings are on the decline in relation to the plantings of oranges. Tangerine plantings are markedly on the increase. Groves receiving personal supervision of owners get more and better attention and return better yields than those dependent wholly on caretakers. The yields and incomes on citrus farms vary directly with the cultural practices in use on the various farms. Good citrus soils are sandy and these are usually found deficient in plant food, and yields of fruit are materially affected by the quantity of fertilizer applied, method of application and the amount of care in cultivation, pruning, spraying, etc.

The location of a grove relative to good air drainage and lake protection is important in lessening the probabilities of damage by frost. Importance of this is shown in two of the four years studied.

Results Made Available by Such Studies.—There is a wide variation in the returns from farm to farm. In general the data show that about one-fifth of the farmers obtain 60 per cent of the total labor income, in addition to food, fuel and shelter, while the poorest one-fifth receives no labor income in addition to farm-furnished supplies.

The studies which have been carried over the period of rising prices showed that the advance in prices tended toward more specialization upon the leading enterprise. In the Wisconsin area they increased the dairy herd; in Indiana they increased the corn area and hogs; in Ohio, poultry and cattle, but with the decline and uncertainty of future prices they now tend toward a greater diversity of revenue-producing enterprises.

PERMANENT WORK IN SELECTED AREAS ESSENTIAL.

To be the most effective, many farm organization studies should be placed on a permanent basis. The various research institutions that have performed the most constructive work within the past twenty years are those that settled upon definite lines of study and then carried these through a series of years, thereby determining certain well-defined principles. It is the same way with the question of farm organization. Important results have so far been accomplished in establishing fundamental principles as well as establishing methods of study. We must study the factors affecting farm organization, not only for one year, but for periods of successive years. Then the seasoned facts regarding the economic practices and standards of operation that influence the returns will be available as a sound basis for constructive work.